

**ABSTRACT**

Embodiments of the invention describe a method and device for controlling a physical layer of a communication device to operate in one of three modes of communication. In a first mode, the device is able to demodulate frames of a Complimentary Code Keying (CCK) modulation type. In a second mode, the device is able to demodulate frames of an Orthogonal Frequency Division Multiplexing (OFDM) modulation type. In a third, autodetection mode, the device is able to automatically detect the modulation type of a received frame and to configure the communication device to demodulate the received frame according to the detected modulation type. Control of the physical layer may be based on criteria related to prior transmissions received or transmitted by the communication device.